Energy Planning Standards for Regional Plans

Instructions

Before proceeding, please review the requirements of Parts I and II below, as well as the Overview document. Submitting a Regional Plan for review under the standards below is entirely voluntary, as enabled under Act 174, the Energy Development Improvement Act of 2016. If a Regional Plan meets the standards, it will be given an affirmative "determination of energy compliance," and will be given "substantial deference" in the Public Service Board's review of whether an energy project meets the orderly development criterion in the Section 248 process. Specifically, with respect to an in-state electric generation facility, the Board:

> *[S]hall give substantial deference to the land conservation measures and specific policies contained in a duly adopted regional and municipal plan that has received an affirmative determination of energy compliance under 24 V.S.A. § 4352. In this subdivision (C), "substantial deference" means that a land conservation measure or specific policy shall be applied in accordance with its terms unless there is a clear and convincing demonstration that other factors affecting the general good of the State outweigh the application of the measure or policy. The term shall not include consideration of whether the determination of energy compliance should or should not have been affirmative under 24 V.S.A. § 4352*

Regional Plans may be submitted to the Department of Public Service (DPS) for a determination of energy compliance (determination), along with the completed checklist below. After a Regional Plan and completed checklist have been submitted to DPS, DPS will schedule a public hearing noticed at least 15 days in advance by direct mail to the requesting regional planning commission, on the DPS website, and in a newspaper of general publication in the region. The Commissioner of DPS shall issue a determination in writing within two months of the receipt of a request. If the determination is negative, the Commissioner shall state the reasons for the denial in writing and, if appropriate, suggest acceptable modifications. Submissions for a new determination following a negative determination shall receive a new determination within 45 days.

The plans that Regions submit must:

- Be adopted
- Include the energy element as described in 24 V.S.A. § 4348a(a)(3)
- Be consistent with state energy policy (described below), in the manner described in 24 V.S.A. § 4302(f)(1)
- Meet all standards for issuing a determination of energy compliance (see below)

Regions are encouraged to consult with DPS before undertaking the process of plan adoption, which may help in identifying any deficiencies or inconsistencies with the standards or other requirements that would be more difficult to remedy after a plan has gone through the formal adoption process.

The state's Comprehensive Energy Plan (CEP) is revised on a 6-year basis. When the next CEP is published in 2022, it will include a revised set of standards, as well as Recommendations that are customized to regions and municipalities. The Recommendations that accompany this initial set of Standards represent a subset of recommendations from the 2016 CEP, which were not written with regions and municipalities specifically in mind. A Guidance document – which is expected to evolve as best practices from regions and municipalities emerge – will be published shortly after the Standards are issued. It will serve as the

warehouse for relevant recommendations from the 2016 CEP, links to data sources, instructions on conducting analysis and mapping, and sample language/best practices. Once issued and until the 2022 CEP is published, this Guidance document will supplant the Recommendations document.

Affirmative determinations last for the life cycle of a revision of the Regional Plan, and Regional Plans that are submitted after the 2022 CEP is issued will be expected to meet the Standards that are issued at that time. Regions are encouraged to consult with DPS regarding interim amendments that might affect any of the standards below, to discuss whether a new review is triggered.

If you wish to submit your Regional Plan to DPS for a determination, please read closely the specific instructions at the start of each section below, and attach your Regional Plan to this checklist.

Determination requests and any other questions should be submitted to: PSD.PlanningStandards@vermont.gov.

Part I: Applicant Information	
Applicant:	Bennington County Regional Commission
Contact person:	Jim Sullivan
Contact information:	jsullivan@bcrcvt.org 802-442-0713 x5
Received by: Click here to enter text.	**Date:** Click here to enter text.

Part II: Determination Standards Checklist

The checklist below will be used to evaluate your plan's consistency with statutory requirements under Act 174, including the requirement to be adopted, contain an enhanced energy element, be consistent with state energy policy, and meet a set of standards designed to ensure consistency with state energy goals and policies.

Please review and attach your plan (or adopted energy element/plan, along with supporting documentation) and self-evaluate whether it contains the following components. Use the Notes column to briefly describe how your plan is consistent with the standard, including relevant page references (you may include additional pages to expand upon Notes). If you feel a standard is not relevant or attainable, please check N/A where it is available and use the Notes column to describe the situation, explaining why the standard is not relevant or attainable, and indicate what measures your region is taking instead to mitigate any adverse effects of not making substantial progress toward this standard. If N/A is not made available, the standard must be met (unless the instructions for that standard indicate otherwise) and checked "Yes" in order to receive an affirmative determination. There is no penalty for checking (or limit on the number of times you may check) N/A where it is available, as long as a reasonable justification is provided in the Notes column.

Plan Adoption Requirement

Act 174 requires that regional plans be adopted in order to qualify for a determination of energy compliance. In the near term, it is likely regions will revise and submit isolated energy plans or elements, particularly due to long planning cycles. Therefore, the plan adoption requirement can be met through an amendment to an existing plan in the form of an energy element or energy plan, as long as the amendment or plan itself is duly adopted as part of the regional plan and incorporated by reference or appended to the underlying, full plan (i.e., is officially "in" the regional plan). If this route is chosen, regions should also provide a memo that discusses the internal consistency of the energy plan/element with other related elements of the underlying plan (particularly Transportation and Land Use), and/or whether the energy plan/element supersedes language in those other elements. Standards 1 and 2 below must be answered in the affirmative in order for a plan to receive an affirmative determination of energy compliance.

1. Has your plan been duly adopted?	☒ Yes Adoption date: See notes.	☐ No	The Bennington County Regional Energy Plan ("Energy Plan") was adopted as an amendment to the comprehensive regional plan on Thursday, March 23, 2017. A draft plan was published in November 2016 and two public hearings were warned and held in March 2017 prior to adoption. The comprehensive regional plan ("Bennington County Regional Plan," referred to hereinafter as the "CRP") was originally adopted on March 19, 2015.

2. Is a copy of the plan (or adopted energy element/plan, along with underlying plan and memo addressing consistency of energy element/plan with other elements of underlying plan) attached to this checklist?	☒ Yes	☐ No	The Energy Plan, incorporated by reference as part of the CRP, is attached along with the CRP and a memo addressing consistency.

Energy Element Requirement

To obtain a determination of energy compliance, Act 174 requires regions to include an "energy element," revised through Act 174 to explicitly address energy across all sectors and to identify potential and unsuitable areas for siting renewable energy resources, as described in 24 V.S.A. § 4348a(a)(3):

> *An energy element, which may include an analysis of resources, needs, scarcities, costs, and problems within the region across all energy sectors, including electric, thermal, and transportation; a statement of policy on the conservation and efficient use of energy and the development and siting of renewable energy resources; a statement of policy on patterns and densities of land use likely to result in conservation of energy; and an identification of potential areas for the development and siting of renewable energy resources and areas that are unsuitable for siting those resources or particular categories or sizes of those resources.*

The standards below are generally organized to integrate each component of the enhanced energy element with related determination standards that evaluate the plan's consistency with state goals and policies. **Energy element components are identified in bolded text.**

While regions may choose to primarily address energy used for heating, transportation, and electricity in the required energy element, they may also choose to address some of these components in related plan elements (e.g., Transportation and Land Use) and should indicate as much in the Notes column. To the extent an energy element is designed to comprehensively address energy, it should be complementary to and reference other relevant plan elements.

3. **Does the plan contain an energy element, as described in 24 V.S.A. § 4348a(a)(3)?** *Individual components of the energy element will be evaluated through the standards below.*	☒ Yes	☐ No	Page:Entire Bennington County Regional Energy Plan The CRP contains an energy element (Chapter 12, pages 174-189) and also specifically identifies, and incorporates by reference, the amendment that is the "Bennington County Regional Energy Plan" – adopted March 2017. The Energy Plan contains an expanded and detailed discussion of energy conservation, efficiency, and renewable energy while the CRP's elements dealing with land use, transportation, and community facilities and services, in particular, provide greater information about some of the concepts and strategies presented in the Energy Plan. Unless otherwise noted, page references in this form are to sections of the Energy Plan. Comprehensive regional energy goals are outlined

			on pg 19 (Section I) of the Energy Plan and pages 174-175 of the CRP.

Consistency with State Goals and Policies Requirement

Act 174 states that regional and municipal plans must be consistent with the following state goals and policies:

- Greenhouse gas reduction goals under 10 V.S.A. § 578(a) (50% from 1990 levels by 2028; 75% by 2050)
- The 25 x 25 goal for renewable energy under 10 V.S.A. § 580 (25% in-state renewables supply for all energy uses by 2025)
- Building efficiency goals under 10 V.S.A. § 581 (25% of homes – or 80,000 units – made efficient by 2020)
- State energy policy under 30 V.S.A. § 202a and the recommendations for regional and municipal planning pertaining to the efficient use of energy and the siting and development of renewable energy resources contained in the State energy plans adopted pursuant to 30 V.S.A. §§ 202 and 202b
- The distributed renewable generation and energy transformation categories of resources to meet the requirements of the Renewable Energy Standard under 30 V.S.A. §§ 8004 and 8005

The standards in the checklist below will be used to determine whether a plan is consistent with these goals and policies. The standards are broken out by category. *Analysis and Targets* standards address how energy analyses are done within plans, and whether targets are established for energy conservation, efficiency, fuel switching, and use of renewable energy across sectors. *Pathways (Implementation Actions)* standards address the identification of actions to achieve the targets. *Mapping* standards address the identification of suitable and unsuitable areas for the development of renewable energy.

Regions may choose to incorporate the information necessary to meet the standards in their energy elements, and/or in other sections of their plans (many transportation items may fit best in the Transportation chapters of plans, for instance). However, plans must be internally consistent, and applicants should cross-reference wherever possible.

Analysis and Targets Standards

For the analysis determination standards below, regions are expected to develop their own analysis (already underway through support being provided to regions by DPS), and to then break out the analysis for their municipalities, who can use their region-provided analysis to meet the municipal *Analysis & Targets* standards (such "municipalization" work is being supported through a contract between DPS and regions, and all regions must supply completed analyses to their municipalities by April 30, 2017, though many are expected to do so much sooner).

DPS is providing a guidance document to explain the expected level of detail in and data sources and methodologies available for meeting the *Analysis & Targets* standards below. Note that standards 4A-4E are all derived directly from requirements in Act 174 (with minor modifications to make them feasible) and must be met affirmatively in order for a regional plan to receive an affirmative determination of energy compliance. Standard 5 is also required and addresses "municipalization" of analysis and targets; regions should check "Yes" if they have or if they have a plan to supply this information to their municipalities.

Targets set by regions should be aligned with state energy policy (see the goals and policies listed above). Where targets (and efforts to reach them) depart significantly from state energy goals and policies, an explanation for how the plan otherwise achieves the intent of the state goal or policy should be provided. The guidance document also offers additional clarification on alignment with state goals and policies. The analysis items below are intended to provide regions with an overview of their current energy use, and with a sense of the trajectories and pace of change needed to meet targets, which can be translated into concrete actions in the *Pathways* standards below. Targets provide regions with milestones or checkpoints along the way toward a path of meeting 90% of their total energy needs with renewable energy, and can be compared with the potential renewable energy generation from areas identified as potentially suitable in the *Mapping* standards exercise below to give regions a sense of their ability to accommodate renewable energy that would meet their needs.			
4. **Does your plan's energy element contain an analysis of resources, needs, scarcities, costs, and problems within the region across all energy sectors (electric, thermal, transportation)?**	☒ Yes	☐ No	Page: Energy Plan pages 20-57 Notes: **The Energy Plan discusses current energy use comprehensively in Section II and future needs and supply considerations in Section III.**
A. Does the plan estimate current energy use across transportation, heating, and electric sectors?	☒ Yes	☐ No	Page: Energy Plan pages 24 (heating); 26 (transportation); 30 (electric); Paragraph #: Click here to enter text. Notes: **Additionally, a summary of regional / municipal level energy consumption data is provided in Appendix A, beginning on pg 101.**
B. Does the plan establish 2025, 2035, and 2050 targets for thermal and electric efficiency improvements, and use of renewable energy for transportation, heating, and electricity?	☒ Yes	☐ No	Page: see notes Paragraph #: Click here to enter text. Notes: **Overall regional energy use targets are shown in Figure 3.2 on page 42 and then broken into residential, commercial, and industrial sectors in Figures 3.3 and 3.4, 3.6, and 3.7, respectively; regional transportation targets are shown in Figure 3.8 on page 50; and renewable electricity generation targets are identified in Table 3.1 on page 57. Targets were identified based on best available Long Range Energy Alternatives Planning ("LEAP") modeling data from VEIC (described on page 39), and in direct consultation with the Public Service Department and other cooperating regional planning commissions. The text in those same sections provides explanations and examples of each of the LEAP scenario projections.**

C. Does the plan evaluate the amount of thermal-sector conservation, efficiency, and conversion to alternative heating fuels needed to achieve these targets?	☒ Yes	☐ No	Page: Energy Plan pages 43-46 (residential); 47-49 (commercial and industrial) Paragraph #: Click here to enter text. Notes: **Projected heat fuel conversion is both described in text and represented graphically.**
D. Does the plan evaluate transportation system changes and land use strategies needed to achieve these targets?	☒ Yes	☐ No	Page: Energy Plan pages 50-52. Strategies, including land use strategies, are discussed in more detail under "Pathways" Standards, but note that the Energy Plan covers those specific issues on pages 67-75, while providing a context for that discussion on pages 27-29. CRP Chapter 7 (Land Use) and 10 (Transportation) provide additional background and support for the Energy Plan; see especially, CRP Section 7.1 (p 60), land use map (p 63), and Section 7.7 (particularly, #1, p 76). Also, CRP Section 10.1 (p 128), 10.3 (ppp140-142), Section 10.4 (pp142-145), Section 10.6 (pp 145-152), Section 10.7 (p 152), and Section 10.8 (p 153, particularly #3). Paragraph #: Click here to enter text. Notes: **Changes in transportation fuel types are shown graphically and discussed in the plan narrative on pages 50-52 of the Energy Plan.**
E. Does the plan evaluate electric-sector conservation and efficiency needed to achieve these targets?	☒ Yes	☐ No	Page: Energy Plan pages 38-57; 76-78 Paragraph #: Click here to enter text. Notes: **The use of electricity across all sectors, and related conservation and efficiency issues are touched on throughout Section III of the Energy Plan. These topics are developed in more detail in the portion of Section IV of the Energy Plan dealing specifically with electric-sector conservation and efficiency (pages 76-78).**
5. Has your region provided (or do you have a plan to provide) a breakout of the analyses and targets above to your municipalities? *Please explain your timeline for completing this task in the Notes column.*	☒ Yes	☐ No	Page: Municipal solar targets – Energy Plan page 90; and Appendix A Paragraph #: Click here to enter text. Notes: **Detailed analysis and targets for each town in the region, based on the LEAP projections included in the Energy Plan, have been completed and will be delivered to all towns by April 30, 2017.**

			The BCRC currently is waiting for acceptable presentation templates approved by the Public Service Department. The BCRC already has provided this data to four towns that are currently developing enhanced energy plan elements. Municipal-level targets for solar-based generation are included in the Energy Plan.

Pathways (Implementation Actions) Standards

This section examines whether plans meet the Act 174 expectation that they include pathways and recommended actions to achieve the targets identified through the *Analysis and Targets* section of the Standards (above). Plans are expected to include or otherwise address all of the pathways (implementation actions) below, unless N/A is provided as an option. There is no penalty for choosing N/A one or more times, as long as a reasonable justification is provided in the Notes column, preferably including an explanation of how the plan alternatively achieves attainment of the targets should be included. If N/A is not provided as an option, the plan must meet the standard, and "Yes" must be checked, in order for the plan to meet the requirements for a determination (unless the instructions particular to that standard indicate otherwise).

DPS will be issuing a guidance document in the near term providing potential implementation actions derived from the Comprehensive Energy Plan (relevant formal Recommendations as well as opportunities not specifically called out as Recommendations), from recent regional plans, and from other sources. For the time being, we offer potential starting points for consideration as italicized text under each standard. Plans are encouraged to promote as diverse a portfolio of approaches as possible in each sector, or if not, to explain why they take a more targeted approach. Implementation actions may fit best in a holistic discussion contained within a plan's energy element, though cross-referencing to other relevant plan elements is also acceptable.

Regions must demonstrate a commitment to achieving each standard in both policies and implementation measures in clear, action-oriented language.

6. **Does your plan's energy element contain a statement of policy on the conservation and efficient use of energy?**	☒ Yes	☐ No	Page: Energy Plan pages 59-78; 94-95; CRP page 7 (2.2) and 174-175 (10.1) Paragraph #: Click here to enter text. Notes: **Policies to promote conservation and energy efficiency are discussed throughout Sections IV and V of the Energy Plan. In addition complementary policies are included in the CRP, Chapber 12 pages, 174-175 and 188-189.**
A. Does the plan encourage conservation by individuals and organizations? *(Actions could include educational activities and events such as convening or sponsoring weatherization workshops, supporting local energy committees, encouraging the use of existing utility and other efficiency and conservation programs and funding sources, etc.)*	☒ Yes	☐ No	Page: Energy Plan pages 76-77 (# 1 and 3); 94 (paragraph 2) Paragraph #: Click here to enter text. Notes: **Policies and actions include expanding existing efficiency programs and changing behavior**

			through specific actions and broad lifestyle adaptations.
B. Does the plan promote efficient buildings? *(Actions could include education on and promotion of residential and commercial building energy standards for new construction and existing buildings, including additions, alterations, renovations and repairs; promoting the implementation of residential and commercial building efficiency ratings and labeling; assistance to municipalities considering adopting stretch codes, etc.)*	☒ Yes	☐ No	Page: Energy Plan pages 59-66: various weatherization programs and organizations. CRP pages 177-179: building standards, energy audits, and alternative fuels. Paragraph #: Click here to enter text. Notes: **The Energy Plan addresses facilitating existing efficiency programs in the region, focusing particular attention on improving rental housing, and promotes application and enforcement of new building standards.**
C. Does the plan promote decreased use of fossil fuels for heating? *(Actions and policies could promote switching to wood, liquid biofuels, biogas, geothermal, and/or electricity. Suitable devices include advanced wood heating systems and cold-climate heat pumps, as well as use of more energy efficient heating systems; and identifying potential locations for, and barriers to, deployment of biomass district heating and/or thermal-led combined heat and power systems in the region)*	☒ Yes	☐ No	Page: Energy Plan pages 59-66: fuel-switching strategies, district and CHP potential, heat pumps. CRP pages 177-179 reviews solar and biomass heating options. Paragraph #: Click here to enter text. Notes: **Policies and actions cover diversifying fuel supplies, promoting biomass district heating and combined heat/power systems; and encouraging cold climate heat pumps, wood biomass stoves, and geothermal systems for some new construction.**
D. Other (please use the notes section to describe additional approaches that your region is taking)	☒ Yes	☐ No ☐N/A	Page: Energy Plan pages 63; 94-97 Paragraph #: Click here to enter text. Notes: **Table 4.2 on pg 63 outlines potential sites where district heating systems might be appropriate. The Energy Plan includes a separate section (V) dealing with "adaptation strategies:" lifestyle, economic system, and food system changes that support the overall objectives of energy conservation and efficiency.**
7. Does your plan's energy element contain a statement of policy on reducing transportation energy demand and single-occupancy vehicle use, and encouraging use of renewable or lower-emission energy sources for transportation?	☒ Yes	☐ No	Page: Energy Plan pages 67-75. CRP pages 6 (2.2), 128 (10.1), Paragraph #: Click here to enter text. Notes: **Policies focusing on improving transportation efficiency and demand are**

			discussed in Section IV of the Energy Plan and in the transportation chapter (10) of the CRP.
A. Does the plan encourage increased use of public transit? *(Actions could include working with public transit providers and other stakeholders to identify and develop new public transit routes, promote full utilization of existing routes, integrate park-and-rides with transit routes, etc.)*	☒ Yes	☐ No	Page: Energy Plan pages 72 (# 3); 74; CRP pp 140-145 (10.3 and 10.4) Paragraph #: Click here to enter text. Notes: **The Energy Plan discusses improving public transit convenience (especially for prospective businesses), raising school bus ridership, and expanding access to intercity passenger rail systems.**
B. Does the plan promote a shift away from single-occupancy vehicle trips through strategies appropriate to the region? *(Actions could include facilitation of rideshare, vanpool, car-sharing initiatives; efforts to develop or increase park-and-rides; enhancement of options such as rail and telecommuting; education; intergovernmental cooperation; or assistance with grants related to any of the above, etc.)*	☒ Yes	☐ No	Page: Energy Plan pages 72 (# 3); 74. CRP pages 140-145. Paragraph #: Click here to enter text. Notes: **The Energy Plan encourages exploring opportunities for carpooling and ride-sharing through the yearly Way To Go program. The CRP includeds specific priority projects to support greater use of transit, discusses carpooling / rideshare programs, and addresses inter-regional transportation by advocating for a new transt connection to the regional Amtrak station in Rensselaer, NY.**
C. Does the plan promote a shift away from gas/diesel vehicles to electric or other non-fossil fuel transportation options through strategies appropriate to the region? *(Actions could include installing or promoting the installation of electric vehicle charging infrastructure, providing education and outreach to potential users, supporting electric and non-fossil fuel vehicle availability through outreach to vehicle dealers, etc.)*	☒ Yes	☐ No	Page: Energy Plan pages 72-73; 75. CRP pages 152 and 180-181 Paragraph #: Click here to enter text. Notes: **Actions include installing EV charge stations in municipal and other public locations, working with existing programs to promote awareness of EV technology, and including information on electric-assist bicycles in promotion of EVs.**
D. Does the plan facilitate the development of walking and biking infrastructure through strategies appropriate to the region? *(Actions could include studying, planning for, seeking funding for, or implementing improvements that encourage safe and convenient walking and biking; adopting a "Complete Streets" policy, etc.)*	☒ Yes	☐ No	Page: Energy Plan pages 68-70; CRP pages 145-152. Paragraph #: Click here to enter text. Notes: **Recommendations cover promotion of compact mixed use development, direct review of proposed road projects and application of "complete streets" principles, municipal-level support, intervention in Act 250 hearings, and**

			identification of needs and opportunities across the region. The CRP transportation chapter (10) identifies specific biking and walking design principles and regional project priorities. The CRP also references the more detailed Regional Transportation Plan and the BCRC's Active Transportation Guide – a detailed project list.
E. Other (please use the notes section to describe additional approaches that your region is taking)	☒ Yes	☐ No ☐N/A	Page: Energy Plan pages 68-69 and 74 Paragraph #: Click here to enter text. Notes: **Noted above, but particularly innovative work is being done by BCRC and partners in planning and implementing downtown mixed use development in Bennington and also in establishing an energy efficient way for residents to travel via rail to major metropolitan areas and for visitors/tourists to travel to the region by rail.**
8. **Does your plan's energy element contain a statement of policy on patterns and densities of land use likely to result in conservation of energy?**	☒ Yes	☐ No	Page: Energy Plan pages 67-69; CRP page 6 (2.2), pages 60-61(7.1) and 76 (7.7 #1). Paragraph #: Click here to enter text. Notes: **Policies and actions promoting compact mixed use development are included in Section IV of the plan. The CRP's central land use planning theme, illustrated by the land use map, is consistent with the Energy Plan and state goals of compact mixed use development in and around historic village centers and downtowns surrounded by low-density rural open spaces.**
A. Does the plan include land use policies (and descriptions of current and future land use categories) that demonstrate a commitment to reducing sprawl and minimizing low-density development? *(Actions could include promoting limited sewer service areas, maximum building sizes along highways, policies or zoning that require design features that minimize the characteristics of strip development [multiple stories, parking lot to the side or back of the store], requirements that development in those areas be connected by means other than roads and cars, etc.*)	☒ Yes	☐ No	Page: Energy Plan page 68; CRP pages 60-80: Chaper 7 – Land Use. Also previously referenced sections of the transportation chapter and Section 11.2 of the Utilities and Facilities chapter. Paragraph #: ; Notes: **Policies commit to developing robust land-use regulations in each municipality, and include by reference sample zoning regulations and policies from a 2013 handbook published by BCRC. In addition to a land use plan that severely limit development in rural and remote areas while**

			encouraging development in compact centers, the CRP also directs transporation investments primariy to serve existing compact development and directs water supply and wastewater disposal and other key infrastructure to those same densely developed areas. (Section 11.2 and maps pp 155-156)
B. Does the plan strongly prioritize development in compact, mixed-use centers when physically feasible and appropriate to the use of the development, or identify steps to make such compact development more feasible? *(Actions could include promoting and assisting with municipal participation in the state designation programs; facilitating the exploration of water or sewage solutions that enable compact development; etc.)*	☒ Yes	☐ No	Page: Energy Plan page 68; CRP pp 60-80, Land Use chapter. Paragraph #: Click here to enter text. Notes: **Policies and actions discuss continued use of existing state designation programs and local and regional policies that facilitate compact development, and commit technical assistance to municipalities pursuing these projects. CRP land use policies, investment priorities, historic preservation efforts, and other tools all are directed toward this objective.**
C. Other (please use the notes section to describe additional approaches that your region is taking)	☒ Yes	☐ No ☐N/A	Page: CRP Chapter 7 – Land Use. Paragraph #: Click here to enter text. Notes: **Of particular note are recent efforts by the BCRC to help municipalities revamp land use regulations to facilitate compact mixed use development in centers, consistent with CRP policies and recommendations.**
9. **Does your plan's energy element contain a statement of policy on the development and siting of renewable energy resources?**	☒ Yes	☐ No	Notes: **Policies for encouraging appropriate renewable energy development are in Sections II and IV of the Energy Plan. The CRP includes a policy statement in Section 2.2 (page 7) and in Section 12.5 (page 189). Renewable energy is discussed in detail in Section 12.4 of the CRP.**
A. Does the plan evaluate (estimates of or actual) generation from existing renewable energy generation in the region, and break this information out by municipality?	☒ Yes	☐ No	Page: Energy Plan pages 34-36; 78-79 (hydro); 90 (actual solar); Appendix E page 165 Paragraph #: Click here to enter text. Notes: **While existing solar generation is broken out by municipality, other renewable energy generation is described in narrative form due to its**

			limited presence in the region. Regional review of existing renewable generation is found on pages 34-36 of the Energy Plan. Existing and potential hydro is shown on pg 79, and municipal solar generation on pg 90. The existing generation map in Appendix E shows larger scale sites (>15 kW).
B. Does the plan analyze generation potential, through the mapping exercise (see *Mapping* standards, below), to determine potential from preferred and potentially suitable areas in the region, and break this information down by municipality?	☒ Yes	☐ No	Page: Energy Plan pages 37 (biomass); 66 (geothermal); 79 (hydro); 85 (wind); 87 (solar) Paragraph #: Click here to enter text. Notes: **Municipal boundaries are shown clearly in all maps except the statewide geothermal map. The regional map is being used to prepare base planning maps for each municipality which can be refined at the local level.**
C. Does the plan identify sufficient land in the region for renewable energy development to reasonably reach 2050 targets for renewable electric generation, based on population and energy resource potential (from potential resources identified in the *Mapping* exercise, below), accounting for the fact that land may not be available due to private property constraints, site-specific constraints, or grid-related constraints?	☒ Yes	☐ No	Page: Energy Plan pages 37 (biomass); 66 (geothermal); 79 (hydro); 85 (wind); 87 (solar) Paragraph #: see mapped resource areas Notes: **The Energy Plan clearly shows biomass resources available for thermal energy use, geothermal potential is demonstrated on a map and discussed in text, and hydroelectric locations and capacities at existing dams are indicated on maps and In text. For solar, more than sufficient land area is shown to meet 2050 targets (see, for example, Figure 4.12 on pg 88 which illustrates the surplus of solar potential area relative to area needed to meet the 2050 solar goal). Although all wind resource areas show some environmental constraints, the land area is sufficient to meet targets if constraints can be addressed.**
D. Does the plan ensure that any regional or local constraints (regionally or locally designated resources or critical resources, from 11B and 11C under *Mapping*, below) do not prohibit or have the effect of prohibiting the provision of sufficient renewable energy to meet state, regional, or municipal targets?	☒ Yes	☐ No	Page: Energy Plan page 82 Paragraph #: 6 Notes: **The only locally designated constraints added to the analysis consist of legally designted municipal scenic, historic, and design control districts; those districts reducethe available solar area by only a small fraction. The only regional constraint added was a 1,000 meter buffer around**

			all residential structures – applied to the wind energy resource mapping analysis; those buffers leave many of the high wind energy resource sites as potential locations for development, provided the identified statewide environmental constraints can be addressed and that the policy concerns raised in the Energy Plan and CRP noted in 9E, below, can be addressed.
E. Does the plan include statements of policy to accompany maps (could include general siting guidelines), including statements of policy to accompany any preferred, potential, and unsuitable areas for siting generation (see 11 and 12 under *Mapping*, below)?	☒ Yes	☐ No	Page: Energy Plan pages 92 (regional); 161-163 (municipal recommendations). Paragraph #: Click here to enter text. Notes: **The Energy Plan and the CRP each also identify a number of critical concerns associated with utilty-scale wind energy development and include appropriate policy language. For example, Energy Plan page 81 (discussion of environmental constraints), 84 (identification of potential locations while noting issues such as aesthetics, water quality, and infrastructure), and 92 (site analysis to include constraints). The CRP discusses wind energy development in the Upland Forest land use district (p 75), with cautions regarding the need to minimize and mitigate environmental impacts, the need to do studies to assess visual impacts, economic costs and benefits, and to avoid locations unacceptable to residents of the region. That same section also states that the amount of generation from wind in the region needs to be "limited so that it is not out of proportion with the energy demands of the region." Moreover, Section 8.9 of the CRP states (page 115) that "Commercial scale wind turbines will be highly visible and should be located only in locations approved by local communities." And policy #14 (page 118) states "Wind generation and telecommunication facilities on mountains and ridgelines may be appropriate to meet identified public needs, but should be avoided when construction would**

			destroy critical natural resources or degrade a viewshed identified as essential to maintaining the unique character of a community or the region."
F. Does the plan maximize the potential for renewable generation on preferred locations (such as the categories outlined under 11E in the *Mapping* standards, below)?	☒ Yes	☐ No ☐N/A	Page: Click here to enter text. Paragraph #: Click here to enter text. Notes: **Beyond the mapping exercise, the Energy Plan identifies specific sites throughout the region that are highly suitable for solar generation on former landfills, gravel pits, and large rooftops (pg 91) as well as sites with potential for district heating systems (pg 63). In addition, municipalities are urged to identify preferred locations in their municipal energy elements.**
G. Other (please use the notes section to describe additional approaches that your region is taking)	☒ Yes	☐ No ☐N/A	Page: Click here to enter text. Paragraph #: Click here to enter text. Notes: **The BCRC currently is using its regional mapping analysis and siting process guidelines to help municipalities identify specific preferred sites that can be realistically developed for renewable energy facilities. Those sites will be supported by local policies while more restrictive guidelines will apply to other sites.**

Mapping Standards

Act 174 requires plans to identify potential areas for the development and siting of renewable energy resources and areas that are unsuitable for siting those resources or particular categories or sizes of those resources. It furthermore requires that the standards address the potential generation from the potential siting areas. Lastly, it requires that – in order to receive an affirmative determination – regional plans allow for the siting in the region of all types of renewable generation technologies.

The *Mapping* standards lay out a sequence of steps for planners to examine existing renewable resources and to identify potential (and preferred) areas for renewable energy development, and to identify likely unsuitable areas for development, by layering constraint map layers on to raw energy resource potential map layers. The maps should help regions visualize and calculate the potential generation from potential areas, and compare it with the 2025, 2035, and 2050 targets from the *Analysis and Targets* standards to get a sense of the scale and scope of generation that could be produced within the region to meet the region's needs. DPS will provide additional guidance to accompany the standards that fleshes out the steps, layers, and standards more fully.

Plans must include maps that address all of the standards below, unless N/A is provided as an option, in which case a compelling reason why the standard is not applicable or relevant should be provided in the Notes column. Regions must develop their own maps (already underway through support being provided to regions by DPS), and to then break out the maps for their municipalities, who can use their region-provided maps to meet the municipal *Mapping* standards (such "municipalization" work is being supported through a contract between DPS and regions, and all regions must supply completed maps to their municipalities by April 30, 2017, though many are expected to do so much sooner). The map and the text describing the policies or rules used to construct the map, as well as the text describing specific policies applicable to map features, should be complementary. That should help ensure that any "land conservation measures and specific policies" that might be given substantial deference in the context of a particular project review under 30 V.S.A. § 248 are clearly identifiable in the text, should a map lack sufficient clarity or granularity regarding the area in which a project is proposed.			
10. Does the plan identify and map existing electric generation sources? *Maps may depict generators of all sizes or just those larger than 15 kW, as long as information on generators smaller than 15 kW is summarized and provided or referenced elsewhere. It is expected that the best available information at the time of plan creation will be used. This information is available from the DPS.*	☒ Yes	☐ No	Page: Energy Plan page 79 (hydro) and Appendix E page 165 Paragraph #: Click here to enter text. Notes: **Existing and potential hydroelectric sites are mapped in Figure 4.9 on page 79 of the Energy Plan. The plan includes by reference mapping of renewable sites through the Community Energy Dashboard, a platform developed and maintained by Energy Action Network. It is recommended that readers use the Dashboard to view the most up-to-date information on current and permitted generation. A map of current sites taken from the Dashboard is included in the Energy Plan as Appendix E (Figure E-1).**
11. **Does the plan identify potential areas for the development and siting of renewable energy resources** and the potential generation from such generators in the identified areas, taking into account factors including resource availability, environmental constraints, and the location and capacity of electric grid infrastructure? *Maps should include the following (available from VCGI and ANR), and the resulting Prime and Secondary Resource Maps will together comprise "potential areas"*:	☒ Yes	☐ No	Page: Energy Plan pages 79 (hydro); 85 (wind); 87 (solar) Paragraph #: Click here to enter text. Notes: **Maps were generated with data from state agencies and utilities in conjunction with the statewide targets development project. The Public Service Department identified statewide and regional generation targets, through the Total Energy Study, Comprehensive Energy Plan, and working with the BCRC over the past three years. The Energy Plan is consistent with that cooperative effort.**

A. Raw renewable potential analysis (wind and solar), using best available data layers (including LiDAR as appropriate).	☒ Yes	☐ No	Page: Energy Plan pages 85 and 87 Paragraph #: Click here to enter text. Notes: **Maps use best available data from VCGI.**
B. Known constraints (signals likely, though not absolute, unsuitability for development based on statewide or local regulations or designated critical resources) to include: • Vernal Pools (confirmed and unconfirmed layers) • DEC River Corridors • FEMA Floodways • State-significant Natural Communities and Rare, Threatened, and Endangered Species • National Wilderness Areas • Class 1 and Class 2 Wetlands (VSWI and advisory layers) • Regionally or Locally Identified Critical Resources *If areas are constrained for the development of renewable energy due to the desire to protect a locally designated critical resource (whether a natural resource or a community-identified resource), then the land use policies applicable to other forms of development in this area must be similarly restrictive; for this category, policies must prohibit all permanent development (and should be listed in the Notes column).* *These areas should be subtracted from raw renewable energy resource potential maps to form Secondary Resource Maps*	☒ Yes	☐ No	Page: Energy Plan pages 85 and 87 Paragraph #: Click here to enter text. Notes: **Known constraints and their role in energy planning are described on pg 81 of the plan.**
C. Possible constraints (signals conditions that would likely require mitigation, and which may prove a site unsuitable after site-specific study, based on statewide or regional/local policies that are currently adopted or in effect), including but not limited to: • Agricultural Soils • FEMA Special Flood Hazard Areas • Protected Lands (State fee lands and private conservation lands) • Act 250 Agricultural Soil Mitigation areas • Deer Wintering Areas • ANR's Vermont Conservation Design Highest Priority Forest Blocks (or Habitat Blocks 9 & 10, for plans that will be submitted for adoption at the regional level by March 1, 2017) • Hydric Soils • Regionally or Locally Identified Resources	☒ Yes	☐ No	Page: Energy Plan pages 85 and 87 Paragraph #: Click here to enter text. Notes: **Possible contraints and their role in energy planning are discussed on pg 81 of the plan.**

If locations are constrained for the development of renewable energy due to the desire to protect a locally designated resource (whether a natural resource or community-identified resource, like a view), then the land use policies applicable to other forms of development must be similarly restrictive (and should be listed in the Notes column). *These areas should be subtracted from Secondary Resource Maps to form Prime Resource Maps.*			
D. Transmission and distribution resources and constraints, as well as transportation infrastructure. *(Including three-phase distribution lines, known constraints from resources such as Green Mountain Power's solar map, known areas of high electric load, etc.)*	☒ Yes	☐ No	Page: Energy Plan pages 33; 79; 85; 87 Paragraph #: Click here to enter text. Notes: **Figure 2.9 on pg 33 shows transmission and 3-phase distribution lines only. Hydro, wind, and solar resource maps also show transmission and distribution infrastructure.**
E. Preferred locations (specific areas or parcels) for siting a generator or a specific size or type of generator, accompanied by any specific siting criteria for these locations *Narrative descriptions of the types of preferred areas in accompanying plan text are acceptable, though mapping of areas and especially specific parcels (to the extent they are known) is highly encouraged, to signal preferences to developers, particularly for locally preferred areas and specific parcels that do not qualify as a statewide preferred location under i. below.* *The locations identified as preferred must not be impractical for developing a technology with regard to the presence of the renewable resource and access to transmission/distribution infrastructure.*	☒ Yes	☐ No ☐N/A	Page: Energy Plan page 91 (solar); Paragraph #: Click here to enter text. Notes: **Specific preferred locations for solar projects are identified on page 91 of the Energy Plan and include former landfills, gravel pits, and large rooftops. In addition, existing dams with hydro potential are mapped. No other sites are shown as "preferred," as local determinations of such sites are being made by towns supported by the BCRC.**
i. Statewide preferred locations such as rooftops (and other structures), parking lots, previously developed sites, brownfields, gravel pits, quarries, and Superfund sites	☒ Yes	☐ No ☐N/A	Page: Energy Plan pages 91 (solar), 162 (step 3) Paragraph #: Click here to enter text. Notes: **As noted above, such sites are identified in the Energy Plan and preferred locations will be further refined and highlighted on maps at the municipal level.**
ii. Other potential locally preferred locations *For example, customer on- or near-site generation, economic development areas, unranked and not currently farmed agricultural soils, unused land near already developed infrastructure, locations suitable for large-scale biomass district heat or thermal-led*	☒ Yes	☐ No ☐N/A	Page: Energy Plan page 63 (district heating) Paragraph #: Click here to enter text. Notes: **Additionally, sites with good potential for district heating systems are shown in the plan. Preferred locations will be further refined and**

cogeneration, potential locations for biogas heating and digesters, etc. *These are particularly important to map if possible (with the input of municipalities), as "a specific location in a duly adopted municipal plan" is one way for a net metering project to qualify as being on a preferred site.*			**highlighted on maps at the municipal level. At this time, using the BCRC regional plan maps as a base, Bennington and Dorset already have identified preferred locations sufficient to meet solar generation targets.**
12. **Does the plan identify areas that are unsuitable for siting renewable energy resources or particular categories or sizes of those resources**? *Either Yes or No ("No" if the plan chooses not to designate any areas as unsuitable) is an acceptable answer here. "Resources" is synonymous with "generators."*	☒ Yes ("Yes" for A and B must also be selected below)	☐ No	Page: Energy Plan pages 85 (wind) and 87 (solar) Paragraph #: Click here to enter text. Notes: **In the case of wind, a 1 KM residential buffer was added around all E-911 residential structures. In the case of solar, municipal districts (scenic, historic, or other design districts) were deemed unsuitable for development, and the presence of prime agricultural soils was highlighted so that the region may prioritize agricultural preservation while siting solar generation. The Energy Plan notes that additional hydroelectric development will not occur at locations other than a limited number of existing dam sites. As noted in earlier responses addressing environmental constraints, several factors that would make wind sites unsuitable are described. Again, the Energy Plan recommends that municipalities, with greater knowledge of local resources and concerns, take the lead on identifying unsuitable sites through their local energy mapping analysis and siting guidelines.**
A. Are areas identified as unsuitable for particular categories or sizes of generators consistent with resource availability and/or land use policies in the regional or municipal plan applicable to other types of land development (answer only required if "Yes" selected above, indicating unsuitable areas have been identified)? *If areas are considered unsuitable for energy generation, then the land use policies applicable to other forms of development in this area should similarly prohibit other types of development. Please note these policies in the Notes column.*	☒ Yes	☐ No ☐N/A (if no unsuitable areas are identified)	Page: Click here to enter text. Paragraph #: Click here to enter text. Notes: **The Comprehensive Regional Plan discusses the preservation of historic resources through historic and design control districts that limit various forms of development (pg 72-73). The Regional Plan stresses the importance of preserving agricultural soils for food production (pg 98- 100). Land use policies in the CRP (Section 7.7) reinforce language in the text**

			indicating regarding minimizing the impact of development on residential areas.
B. Does the plan ensure that any regional or local constraints (regionally or locally designated resources or critical resources, from 11B-11C above) identified are supported through data or studies, are consistent with the remainder of the plan, and do not include an arbitrary prohibition or interference with the intended function of any particular renewable resource size or type? *Please explain in the Notes column.*	☒ Yes	☐ No	Page: Energy Plan page 82 and Section V. Paragraph #: Click here to enter text. Notes: **The Energy Plan explains that regional and local constraints must be supported by studies on page 82, and discusses the importance of balancing energy development with the preservation of agricultural potential – agriculture and agricultural soils in the Natural Resources chapter of the CRP (Section 8.4). The cautions associated with agriculture do not prohibit development in those areas, but encourage careful planning and cooperative development to support viable agriculture. Similarly, the CRP discusses the need to protect scenic and historic districts (Section 7.5) and fragile forest areas (Section 7.6) – and includes references to the Bennington Regional Forest Stewardship Study.**
13. Does the plan allow for the siting in the region of all types of renewable generation technologies?	☒ Yes	☐ No	Page: Energy Plan and CRP Paragraph #: Click here to enter text. Notes: **Yes it does, giving specific recognition to the value and technical merits of having a mix of renewable generation technologies in the region, consistent with the Vermont Comprehensive Energy Plan.**
14. Has your region provided (or do you have a plan to provide) a breakout of the map product(s) above to your municipalities? *Please explain your timeline for completing this task in the Notes column.*	☒ Yes	☐ No	Page: Click here to enter text. Paragraph #: Click here to enter text. Notes: **Resource maps will be delivered to all towns by April 30, 2017. Four pilot towns have already received this information and are currently developing enhanced energy plan elements.**